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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,722	12/10/2004	Peter Neu	00143-00244-US	6059

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EXAMINER	
ARNOLD, ERNST V	

ART UNIT	PAPER NUMBER
1616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,722	NEU ET AL.	
	Examiner	Art Unit	
	Ernst V. Arnold	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,4,7,8 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,4,7,8 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 2, 5, 6, and 9-17 have been cancelled. Claim 18 is new. Claims 3, 4, 7, 8 and 18 are pending and under examination. Applicant's amendment has necessitated a new ground of rejection. This Action is FINAL.

Withdrawn rejections:

Claims 3, 4, 7 and 8 were rejected under 35 U.S.C. 112, second paragraph. Applicant has amended the claims and the Examiner withdraws the rejection.

Claims 3, 4, and 7 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2, 4, 6 and 7 of copending Application No. 10/517,723. Applicant has filed a terminal disclaimer and the Examiner withdraws the rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 4, 7, 8 and 18 remain/are rejected under 35 U.S.C. 103(a) as being unpatentable over by Petzelt et al. (WO 00/53192) in view of Thomas (US 6,358,536) and Zapol et al. (US 6,656,452).

Applicant claims a method of treating a patient characterized in that a xenon spasmolytic is provide in a form of a combination medicament.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Petzelt et al. disclose preparations and methods of use of xenon or xenon gas mixtures for treating neurointoxications (a chronic cerebral disorder such as Parkinson's disease; thus an impairment of cognitive performance) in a therapeutically useful concentration (Page 5, paragraph 1; page 11, paragraph 4 and claims 1, 7 and 16, for example). Petzelt et al. teach the use of the gas or gas mixtures where the neurointoxication is craniocerebral trauma (claims 1-3 and 8). Petzelt et al. clearly point towards a method of treating apoplexy thus encompassing stroke (Claim 4). The preparation can have a ratio of xenon to oxygen of 80 to 20 percent by volume (Page 8, second paragraph and claims 15 and 17). Administration is by simple inhalation (Page 12, line 1). Methods of mixing the gases are provided (Page 8, paragraphs 3 and 4). Methods of administration are also provided (Page 9, paragraphs 1 and 2). Petzelt et al. teach a method of producing an inhalable preparation by mixing xenon with another gas harmless for humans (Claim 18).

Thomas teaches methods of alleviating or preventing vasoconstriction or vasospasm in a mammal via administration of a NO source (Abstract). The NO source can be nitroglycerine, arginine and a nitroprusside salt (claims 1, 9 and 10).

Zapol et al. teach use of a therapeutically effective amount of inhaled NO gas for treating ischemia reperfusion, stroke and trauma; for example (Abstract, column 2, lines 50-55 and claim 1). Zapol et al. teach administering a therapeutically effective amount of a second compound that potentiates the therapeutic effect of gaseous nitric oxide (Claim 1). Nitric oxide is a known vasodilator (column 1, lines 22-40).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Petzelt et al. do not expressly teach a method of treating spasms such as cerebral vasospasm in a patient with xenon and a spasmolytic. This deficiency in Petzelt et al. is cured by the teachings of Zapol et al. and Thomas.

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an NO source as defined by Zapol et al., in the method of Petzelt et al., for the treatment of spasms such as cerebral vasospasm and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because Petzelt et al. suggests adding another harmless gas, and a therapeutic amount of NO from an NO source would be beneficial to the patient as taught by Zapol et al. and Thomas. Since both methods are directed to the same purpose it would be obvious to combine xenon and NO especially in view of the fact that Petzelt et al. suggests other gases and Thomas and Zapol et al. teach using NO sources for treating the same conditions. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). Thus one of ordinary skill in the art would have immediately combined the two compositions, xenon and NO source, in the method of Petzelt et al. It is the Examiner's position that mixing of xenon and NO gases would read on simultaneous administration and that it is within the purview of one of ordinary skill in the art to determine the best mode of administration on a patient by patient and condition dependent manner where separate or sequential administration might be most favorable for that case.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976).

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

One of ordinary skill in the art would have recognized the obvious variation of the instant claims in the copending application because of the overlap in claimed subject matter as stated above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to arguments:

The Examiner has carefully considered Applicant's arguments but has not found them to be persuasive as fully explained below. Applicant asserts that Petzelt et al. does not teach treating patients with spasms. The Examiner can agree that Petzelt et al. does not specifically teach treating patients suffering from spasms. However, it is the Examiner's position that Petzelt et al. provide a general teaching of treating craniocerebral trauma, which would encompass a spasm such as cerebral vasospasm (see Thomas column 1, lines 20-30, for example).

Applicant asserts that the state of the art is that xenon has been used as a narcotic. The Examiner believes Applicant is referring to the known anaesthetic/analgesic properties of xenon.

The Examiner respectfully cannot agree with that assertion because Petzelt et al. clearly teach another use of xenon which is for a neuroprotective effect (see for example page 6, paragraph 2 of Petzelt et al.). Thus, Petzelt et al. provide *the concept* of administering xenon in craniocerebral trauma for the protection of brain cells. Cerebral vasospasm is a traumatic craniocerebral event as taught by Thomas. The administration of a therapeutic amount of a spasmolytic such as nitric oxide is taught by Zapol et la. and Thomas for the treatment of stroke/vasospasm. Therefore the Examiner can only conclude that the art has already established treating stroke/vasospasms with spasmolytics such as nitric oxide.

The motivation to combine the teachings of Thomas with the teachings of Petzelt et al. are provided from Petzelt et al. whom clearly state that another harmless gas can be added as discussed above. In the case where the craniocerebral trauma is a cerebral vasospasm it is obvious to select a therapeutic amount of nitric oxide gas for the treatment of the vasospasm as taught in the art.

Summary: Applicant has only provided arguments and has not provided any unexpected results. The primary reference teaches treating apoplexy (stroke) with xenon. The secondary reference of Thomson ties vasospasm to stroke (column 1, lines 20-26). The secondary reference of Zapol et al. ties treatment of stroke with gaseous NO (claims 1, 9 and 11). It remains the Examiner's position that treatment of spasms, such as cerebral vasospasms with a combination medicament comprising a known medicament for treating spasms (NO) and a subanaesthetic amount of xenon is obvious to one of ordinary skill in the art in the absence of evidence to the contrary. The NO treats the vasospasm and the xenon provides neuroprotection from the trauma. These concepts are taught in the art. The result is expected and predictable: the vasospasm is

treated and brain cells are protected. From recent case law: "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." And; "The results of ordinary innovation are not the subject of exclusive rights under the patent laws." KSR INTERNATIONAL CO. v. TELEFLEX INC. ET AL. pgs. 12, 24; 550 U. S. ____ (2007)"

Conclusion

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernst V. Arnold whose telephone number is 571-272-8509. The examiner can normally be reached on M-F (6:15 am-3:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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